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TO: **Christopher Zimny, Regulations Coordinator**
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FROM: **Robert Klamt, Chief, Timber Harvest Division**
North Coast Regional Water Quality Control Board

Subject: Response to second round of questions regarding "T/I Rules"

I apologize for the lateness of these comments. I understand that Dave Hope has at least verbally communicated to you regarding our comments. I don't know to what degree you have control over the pace, but we find it challenging to craft responses and get through our review chain in the time frames we are dealing with. Another week would make all the difference.

Thank you for the opportunity to participate in the process. Our comments follow. I hope they are useful in the process. Please contact Dave Hope (dhope@waterboards.ca.gov or 707-576-2830) or me (rklamt@waterboards.ca.gov or 707-576-2693) if you have questions or need more information.

Question 52

The Scientific Review Panel report that provided the basis for this rule package emphasized its applicability only in coastal areas, yet the rules are applied to inland regions as well. Are the T/I rules appropriate for all geographic locations where listed species are found? Should rules be specific for inland regions of the state? (ref L3-1; L3-3)

In our experience, the T/I rules are not adequate in the inland areas in all cases for maintenance of cold freshwater habitat, a primary issue being shade. Separate rules for inland areas with specific consideration of effective shade rather than canopy would be appropriate.

A reassessment of optimal habitats for salmonids in the inland region might have some value. Maximum natural potential of a site can vary over almost all landscapes but one

aspect that does remain constant is salmonid biology which makes quality salmonid habitat the same throughout their range. The basic needs of salmonids along the coast and inland is for their freshwater habitat to have clear, cool, well-oxygenated water. Requirements for egg incubation, juvenile rearing, and migration of juveniles depend on the physical, chemical and biological components of the environment that support salmon. Instream clean water, sufficient food supply, and good instream habitat are all supported by robust riparian habitat. Robust riparian habitat contributes many positive aspects to the stream (wood, shade, filtering, food), which is why the rules focused on increased WLPZ standards, factors which should be considered were ever salmon exist.

The biggest question is whether the riparian habitat alone can be sufficient to protect salmonid habitat. Riparian habitat and upland terrestrial habitat conditions interact and are greatly influenced by the larger watershed ecosystem which limits the total effectiveness of just protecting the WLPZ. The basic fact is that the forest, riparian, and stream habitats are all intertwined. The riparian zone interacts with forest and the stream environment to provide: nutrients for the food web base, woody debris for habitat, rainfall/inflow (hydrology), bedload control (stream attributes) and filtering runoff (water quality), and shade to aid in water temperature control. This is a long list of chores that a small ribbon of trees along a creek can not accomplish alone. Local habitat and biological diversity of streams and rivers are strongly influenced by landform and land use within the surrounding basin. "In every respect, the valley rules the stream" (Hynes 1975 [1])

The rules should require that habitat be as robust as possible, and they have attempted to do so within the limitations of allowing existing harvesting on the landscape. When harvesting is allowed the T/I Rules reflect the biological science modified by policy to allow continued harvest. A concern is "should core areas where endangered salmon survive today be allowed to be harvested" if they are intact, and "can recovery be slowed by continued harvest where coho habitats are degraded," and, furthermore, is this reasonable in the face of extinction of the species.

Question 53

What is the science or a demonstrated problem with operations in the Southern Subdistrict requiring the need of the operational specificity of T/I rules? Many watersheds on the Central Coast of California meet the T/I geographic scope, however, the prescriptive measures called for in the rules are not tailored to the light-touch single-tree selection harvesting, with low-key road infrastructure, that leaves an intact forest from the creek to the ridge top. Should these silvicultural and forest operational practices be subject to a different, less restrictive, set of statewide prescriptive regulation? (L4-1; L4-3)

[1] Hynes, HBN. 1975. The stream and its valley. Verh. Int. Ver. Theor. Ang. Limnol. 19:1–15.

While we have no jurisdiction in the Central Coast, the T/I rules do allow for assessment of existing conditions and proposed operations to determine if additional protections are needed or if exceptions can be granted for lessened protection. This flexibility was built into the rules to address site specific conditions that are specific to all regions of the state.

The cumulative effects of logging in the Southern Subdistrict, with the unstable young geology, urban impacts, high percentage of erosive soils, and the highest rainfall intensity rating in the redwood region combines with warm climate and existing degraded stream conditions all leading to reasons for special protections provided by the T/I Rules. The Board of Forestry has seen fit to allow Special Rules to be in effect since 1983 in the Southern Subdistrict because it is recognized that these problems exist.

Light-touch single-tree selection harvesting is very appropriate when combined with increased WLPZ (width and composition), to prevent temperature and sediment impacts to watercourses. This type of logging is what should be considered for the entire state in watersheds that contain coho populations. Intact forest stands that are thinned to produce a constant flow of high quality timber products should be the goal of all forest management. Light touch selection harvesting is producing larger timber and yields that are comparable, if not greater than clearcutting. Timber cruises and models of the average redwood forest in Santa Cruz County indicate a 40% harvest of over 18" dbh trees on a 14 year rotation will produce more standing timber and more total volume in 100 years than a clearcut on a 50-year rotation. With that in mind it appears light touch selection is the future as it is a viable way to maintain the long term production of high quality timber products, while giving equal consideration to watersheds and wildlife.

Question 54

Does the "watersheds with threatened or impaired values" definition reflect geographic scope consistent with your agency's laws and policies?

The short answers is no, it is limited to planning watersheds in streams and WLPZs with listed anadromous species present in 1990, which is not consistent with our impaired listings. In the last round of questions by the Board of Forestry, the Scott River TMDL was compared to the areas protected by T/I Rules: T/I Rules covered only 1/6 of the area covered by TMDL regulations. The North Coast Regional Water Quality Control Board has a much broader mandate to protect all waters of the state that are within a watershed, and not limited to anadromous streams, the limit of anadromy, or their near stream habitat.

In an impaired waterbody many other beneficial uses are considered and protected by the mandate and authority under Porter-Cologne and the Clean Water Act. Our comments stand from other requests for review of T/I rules: the geographic scope of

the rules is not consistent with our laws or policies. The area covered by stream protections must be applied watershed wide to be effective. This present definition ignores the effects of upstream disturbance on downstream coho habitat. Protections must affect the entire area that can influence coho habitat to have a realistic chance of restoring coho salmon populations and meeting other beneficial use protection requirements. Water that enters a coho habitat needs to be cool, sediment inputs controlled, and large wood inputs enhanced as an integral part of water quality protections.

Additionally, the current definition of watersheds with "Threatened and Impaired Values" does not comport with Clean Water Act section 303(d) listed impaired waterbodies. Many streams that are listed as impaired by the USEPA, and are subject to TMDLs, will never receive protection under T/I Rules. Additional protections are given only to streams that have fish present that are "listed as endangered, threatened or candidate," which covers a very limited subset of impaired waterbodies. The use of "Impaired" in the title of Threatened and Impaired reflects the original intent to protect 303(d)-defined impaired waterbodies with this rule package; an artifact remaining after the removal of those specific protections some years ago.

Question 55

Currently, the "threatened" component of the T/I rules is only applied if a portion of a planning watershed contains threatened, endangered, or candidate species under the Endangered Species Act, or can be restored to the point that these species can access the watershed (i.e., removing artificial barriers). As a result, "non-restorable" planning watersheds within the same drainage basin, but wholly outside the anadromous zone, do not receive any T/I rule protection. Should some aspects of the T/I rules be applied to upstream planning watersheds that are completely outside the anadromous zone because watercourses "integrate watershed processes and translate natural and anthropogenic disturbances downslope through the landscape" (Buffington et al., 2003) , and successful restoration requires that watershed processes and linkages be considered? (ref L14-1, L16-4, L17-2)

Yes, to be effective in controlling the impact of logging related activities on watercourses the T/I Rules must address upslope processes/activities that impact watercourses. Please refer to comments above and in past responses to the application of the T/I Rules.

Question 56

The current T/I Rule protection measures for Class I watercourses likely meet the protection requirements for North Coast temperature TMDLs when applied throughout the impaired watershed. Application only to the limit of anadromy is not fully protective. What is the science, legal or policy basis this? (ref L17-4)

Regional Water Board staff determined during temperature TMDL development, that the primary factor affecting the temperature of most streams is solar radiation. This conclusion was based on extensive stream temperature measurements, effective shade measurements, modeling with varying degrees of stream shading, and field analysis and verification. The specific conclusion was that when near stream full site potential tree shade canopies are reduced below 85%, stream temperatures begin to increase. Obviously, water flows downhill and near stream full site potential tree shade canopies of 85% are necessary above areas of anadromy in order to provide the cool water necessary for salmonid survival. For the reasons stated above, the T/I Rules and standard Forest Practice Rules canopy requirements for Class II watercourses provide inadequate temperature protection.

Question 57

To be responsive to the potential for cumulative effects, the spatial scale of applicability of the TI rules must expand beyond a T/I watershed area to consider T/I rules in those "non-TI" watersheds that flow into a "T/I" watershed. What is the science, legal or policy basis this? (ref L17-3).

Upstream, non-T/I watersheds can and often do impact downstream portions that are designated T/I. This is a classic cumulative effect as waters upstream from a site must combine with local waters and may strongly influence water quality. Additionally, State law requires that waters of the state (which includes all non-T/I streams tributaries and wetlands), be protected from degradation.

State law and the federal Clean Water Act (CWA) require the state to adopt water quality standards and water quality criteria that meet anti-degradation policy criteria for waters of the United States and the State which includes all rivers streams, tributaries and wetlands. State Water Board adopted Resolution No. 68-16, which requires high quality water be maintained, and that any change to high quality waters must be consistent with maximum benefit to the people of the state, not unreasonably affect present and anticipated beneficial uses of water, and not result in water quality less than that prescribed in water quality control plans or policies. In Basins where TMDLs are present this means that the protections must apply to all waters of the state, and controllable factors shall not cause further degradation of water quality. Controllable water quality factors are those actions, conditions, or circumstances resulting from man's activities that may influence the quality of the waters of the State and that may be reasonably controlled.

See answers to Question 56 also.

Question 58

Specific inadequacies in plan preparation/THP approval process have been identified in the Federal Register as part of a federal ESA species listing procedure. These include dependence upon RPFs that may not posses the necessary level of multidisciplinary technical expertise to develop THPs protective of salmonids. Does this situation still exist and what are the science or other technical information supporting the statements?(ref L15-3)
While we are unsure of the timeframe that this statement covers, and we have no specific scientific or technical information as support, it is our observation from discussion with and in answering questions posed by the industry that there often are gaps in the knowledge and basis of legal requirements for the protection of beneficial uses of water that go beyond the Forest Practice Rules.

Question 59

Specific inadequacies in plan preparation/THP approval process have been identified in the Federal Register as part of a federal ESA species listing procedure. These include dependence by CDF on other State agencies to review and comment on THPs. Does this situation still exist and what are the science or other technical information supporting the statements? (ref L15-4)
This still exists and often there are no "other State agencies" commenting on plans. The Technical information supporting this statement could be gained by a review of participating agencies on THPs in the database. Review of the North Coast Regional Water Board staff data base indicates that we have participated in the field review of 56% of the THPs over the last 6 years. This leaves at least 44% of the THPs that did not receive our onsite review and comment. Additionally a full compliment of trained and experienced State agency staff are not always involved in the review of a plan. The assumption often is that if an agency has not participated, then the agency has no concerns, casting some doubt on the adequacy of the process in fully satisfying functional equivalence under CEQA. For discussion of the problems with this review procedure see the reason provided by the NOAA Federal Register.

Question 60

Specific inadequacies in plan preparation/THP approval process have been identified in the Federal Register as part of a federal ESA species listing procedure. These include failure by CDF to incorporate recommendations from other agencies, inadequate enforcement due to staff limitations, and inadequate Timber Harvest Plan preparation, review, implementation, and validity. Does this situation still exist and what is the science or other technical information supporting the statements? (ref L15-9)(ref L15-5)

We have observed that the recommendations of the NCRWQCB staff are better received since the legislature unsettled the timber harvest waiver and the Board adopted a new waiver and general waste discharge permit. We also attribute this to a better working relationship with CalFire and the timber industry overall. Staff still has difficulty at times in upgrading and implementing protections for watercourses, often depending on the plan submitter. Often numerous recommendations are required to bring a THP into conformance with the rules and to fully protect water quality. The technical support for this observation can be obtained by looking at the number of rejected plans and the number of recommendations placed on a THP by Review Team participants. This is a good marker as many RPFs that do a good job in THP preparation consider limited recommendations from the Review Team as a mark of how well they have prepared a THP.

Literature Cited:

Hynes, HBN. 1975. The stream and its valley. Verh. Int. Ver. Theor. Ang. Limnol., 19: 1–15.